

# Explorations on Senegal in the Museum of Fishes of the Spanish Scientific Council (CSIC) at Cádiz (Spain)

Poster:

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*Antigonina capros* (Lowe, 1843)  
Photo: J. Randall

Senegal Fish Collection, (CSIC,  
Puerto Real). 10th EURASLIC  
Conference, May 2003, Kiel,  
Germany.

# A **Library of Life**. A required status into the 6th European Research Framework Program.



- An “**European Research Institution**” status, into the Consortium of **European Taxonomic Facilities** (CETAF), for the Fish Museum of ICMAN (CSIC)
- The Fish Museum has been involved into **Species2000**: (The International Joint Workshop for Studies on BIODIVERSITY, **Tsukuba**, Japan, 1999  
■ [http://www-sp2000ao.nies.go.jp/english/whats\\_new/year\\_1999/pos\\_pre/abstract.html-EnriqueWulff-Barreiro](http://www-sp2000ao.nies.go.jp/english/whats_new/year_1999/pos_pre/abstract.html-EnriqueWulff-Barreiro))
- The Fish Museum is seeking to be involved into **CODATA Africa** activities



Trigla sp. (Cuvier, 1828)

Photo: J. Randall ©

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# This is a “Inadvertent collection”

- The **fish ages** have had not been determined.
- The **collection catalogue** has never been published.
- The basic activity of the museum should be **to lend** the models and adequately secure its retrieval.
- A **global taxonomic review** concerning it should be performed as a policy at higher levels.



Pagellus erythrinus (Linnaeus, 1752)  
Photo: C.L. Hernández-González ©

# Properties of a specimen from its information content



- Specimen preserve **complex information**
- Historical information preserved in **collections ramifies** through biology
- **Data quality** – Specimen preservation maintains data quality



Dentex filusus (Valenciennes, 1836)  
Photo: C.L. Hernández-González ©

# Focus: In Senegal coasts a computer facility for the interaction between tropical and Atlanto-mediterranean faunas



- In Senegal coastal waters the **Lozano hypothesis** on interaction between the tropical and the Atlanto-mediterranean fauna played a key role in spanish expeditions from CSIC Labo, sited in Cádiz, between 1958 and 1959.
- This “tool for the job” focuses on computer analysis of **an initial sparse data region**.
- The regional biota is described throughout the designed labeling, cataloging, and field **note-taking system** employed by **those who created the collection**.



*Fistularia villosa* (Klunzinger, 1871)

Photo: J. Randall ©

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# The 4 Fisheries research Institute (IIP, CSIC) spanish expeditions from Cádiz south Bojador Cape (1958-1959)



- The goals:
  - ◆ To study the **Senegalese hake**.
  - ◆ To explore the abundancy and diversity of species in the **zooplankton**.
  - ◆ To enrich the distribution data and the systematic of the distinct **fish species**.
- The reasons:
  - ◆ The area between Cabo Juby and Cabo Verde offered a bottom fauna of special **economic richness**.
  - ◆ **Spanish** and **Portuguese** did intensively fish in it.
  - ◆ **Cádiz** and **Huelva** harbors were the main basis for these fleets.
  - ◆ The **Banc d'Arguin** was not enough known.



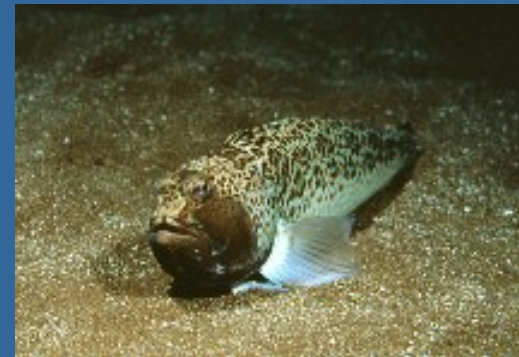
Serranus cabrilla (Linnaeus, 1758)  
Photo: C.L. Hernández-González ©

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# The 4 campaigns aboard the “Costa Canaria”, the years 1958 and 1959, to the Senegal River Basin coasts.



- 187 fish species were caught.
- 1500 km, from Cape Bojador to Guinea Bissau.
- The fishes were studied by means of 186 trawl surveys.
- The main constraints afforded with by the expeditionaries was the status of the vessel employed, a fishery ship, the “Costa Canaria”.
- The Bathymetric distribution of the species caught in the Senegal coasts (between 16° and 12°), displays the leading idea of the expeditionaries (on fish assemblages, age, temperature and migratorial behaviors).
- This bathymetric data must be shared and reused, checked for errors, redisplayed within a GIS, and standardised.



Trachinus radiatus (Cuvier, 1829)  
Photo: C.L. Hernández-González ©

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# A digital storing capacity for the Museum specimen data.



- **Basic fields:** Species, Collecting from, Year, N° of exemplars, Collected by
- **48 Species** depicts research from **Senegal** (16°-12°N)
  - ◆ **26** were Collected from **Senegal**, **17** were from **Mauritania (Banc d'Arguin)**, **4** from former **Spanish Sahara** coasts and **1** was caught off **Guinea Bissau** (10° N)
- Archival samples are all fixed in **formaldehyde**
- Prof. **Cervigón** collected **93%** of the reported cases), half time working alone, half time having besides him Prof. **Durán**
- External **morphology** data available refers to **size**.
- **Growth histories** are **incomplete**, as in the case of many **old fishes**.



Macroramphosus scolopax (Linnaeus, 1752)  
Photo: C.L. Hernández-González ©

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# Dr. Fernando Cervigón



- Head officer at the 4 Spanish Expeditions, from **Cádiz** to W.Africa littoral
- Director The Margarita Marine Museum, **Venezuela**
- The holotype for *Cottunculus costaecanariae*, nov.sp. Cervigón 1961, was caught 20°45'N, 450 m, on 1958 October. Size: 139 mm



*Cottunculus costae-canariae* (Cervigón, 1961)  
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